# THE VETERINARY RECORD

**A Weekly Journal for the Profession.**

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 64. SATURDAY, SEPTEMBER 28, 1889. VOL. II.


## EDITORIAL NOTES.

Mr. W. T. Wilson has just been appointed Professor of Veterinary Science to the Royal Agricultural College at Cirencester. The appointment is every way a good one and we shall be disappointed if it does not lead to some direct benefit to veterinary and agricultural science. Mr. Wilson possesses many advantages. Trained by his father—the well-known practitioner at Berkhampstead—in a large and varied practice, he had also the invaluable opportunity, as class assistant to Professor Crookshank, of being inducted into a thorough practical knowledge of Bacteriology, and the best methods of carrying out original pathological research. Recently he has extended his experience to blood stock, having, with Mr. Cooper Smith, had the somewhat rare opportunity of seeing the practical breeding, rearing, and management of thoroughbred racing stock.

At Cirencester Mr. Wilson will find well arranged laboratories and facilities for exact enquiry into physiological or pathological questions such as few other positions can afford. Of course we must not be impatient. His first session will doubtless be fully occupied in mastering the details of his every-day work, but we shall look forward with sanguine expectations to the time when he will render valuable assistance in the elucidation of problems equally interesting to agriculturists and veterinarians.

---

When once a plausible theory gets an authorative start it is wonderful how much harm it may do. Long after the experts have given it up the pseudo-scientific amateur spreads the error and expresses his "own strong opinion" with all the confidence begotten by a simple understanding of only one side of the question. At the opening of the Congress of the Sanitary Institute the President's address was delivered by Mr. Hastings, M.P., on the question of milk. "Mr. Hastings pointed out the danger that arose from a want of control over the management of dairies. He expressed his own strong opinion that the evidence in the Hendon case went to prove that scarlet fever could be produced in human beings through the agency of milk by a disease in cows, appearing slight in its nature, and not differing much from the ordinary vaccine disease which was a prophylactic against small-pox." Something might have been said of the power even now possessed by medical officers and sanitary officials to ruin a dairyman's business by the discovery of mares' nests; and of the danger of leaving to men, whose training is insufficient, the diagnosis of diseases in the lower animals. We would respectfully suggest to Mr. Hastings, M.P. the desirability of devoting a little time to the study of Professor Brown's Report on Scarlet Fever and Eruptive Diseases of the Udders of Cows. He will then be in a better position to offer his "own strong opinion"—providing he possesses the necessary logical instinct and scientific knowledge to draw a correct inference.

---

The question of Tuberculosis in animals and its effects upon their flesh as food for man is rapidly becoming a prominent one. Since the decision in the well-known Glasgow case the Sanitary Authorities in other large towns have awakened to the danger of permitting the sale of diseased animals. Sheffield, Bolton, and Middlesborough have each condemned the carcases of animals which had suffered from tuberculosis. London, as usual, has done nothing. The Metropolis is not an ordinary community—it is a mere aggregation of human beings bound together by nothing more definite than a geographical position. Some day perhaps it will be given a local government able and willing to look after the weal of its inhabitants. Then the private slaughter-houses, in which at present any sort of animal may be killed in any way its owner chooses to adopt, independently of humanity, cleanliness, or health, will be done away with. The attempts to protect the public from the danger of Tuberculous disease have so far been well supported by the veterinary profession. In the Glasgow case we seemed in advance of the medical profession, and our leading men still hold most advanced views as to the danger of consuming the flesh of tubercular animals. At Sheffield, we fear the veterinary surgeons are a little behind hand—at least so we should surmise from this extract from *The Daily News* of Thursday last—

> "The Sheffield butchers affirm that tuberculosis, technically known as "grapes," does not, in the primary stages of the disease, render the meat unfit for food. Such is, it seems, the dictum of veterinary surgeons. Hence it is natural that the butchers regard veterinary surgeons and "scientists" of their class as the proper persons in the last resort to decide in such a case."

We repudiate this entirely, and unhesitatingly assert that the majority of the profession is quite opposed to the use as food of any portion of an animal suffering from tuberculosis.

# CLINICAL NOTES.

## A SKIN AFFECTION IN A COW.

By W. Western, M.R.C.V.S.

The following case may prove interesting.

*Subject.*—A Jersey cow about four years old, with an enormous swelling in the vicinity of the umbilicus, and skin eruptions on various parts of the body.

The history of the case afforded little or no assistance, as all the attendant could say was "that she had been lying out at grass for a couple of months, and the affection had come on gradually." Her appetite was good, bowels regular, and temperature normal; in fact she seemed in perfect health, except the conditions above referred to. The nature of the swelling was evidently dropsical, which I tapped carefully and drew off by means of a milk syphon about a gallon and a half of serum. On the under surface of the enlargement the skin was excoriated, very much of the appearance of a gravel rash. The flies were very troublesome, and the poor thing was constantly kicking it.

Concerning the other eruptions: there were several along the spine, and in fact there seemed every probability that the whole of the hair along the back would come off, and in the lumbar region there were places almost as large as cheeseplates. They were not vesicular, but merely as if the skin had been well scraped by a knife and coated with a coagulated accumulation of serum. The places were of a dark red colour and showed no disposition to repair themselves. Along the spine in those portions where the hair was white there seemed to be a disposition to break out, the skin being very red, very much resembling red mange. There were several places (I should say twenty in all) which after treatment healed only to break out again in fresh places.

Coming to the treatment, I tapped (as I have before stated) the swelling on the first two occasions of my visit and, all the fluid withdrawn, the swelling subsided slowly. I gave a purging drench and prescribed Tr. of Ferri Perch. and Liq. Arsenicalis twice daily. At the same time the sore places were sponged twice daily with a solution of Hydrarg Perchlor. four grains to the ounce with a very minute quantity of Prussic Acid mixed with it to allay the irritation which was intense.

After about a week the improvement was very marked, and after a fortnight I discontinued my visits. The animal has now quite recovered.

This is a somewhat peculiar case, and I was certainly at first inclined to look upon it in a very serious light, but I was pleased to see that improvement took place so quickly. There is a possibility that the eruption was previous to the swelling (under the body) and that irritation caused the animal to kick, and the swelling consequent upon the blows. There is one fact which I have omitted, viz: that one of the other cows had something similar, but only on the belly (without swelling) exactly a year previous. I should like to know through the medium of your journal if these cases are at all common.

# VETERINARY MEDICAL SOCIETIES.

## NATIONAL VETERINARY MEDICAL ASSOCIATION.

### MECHANICAL AIDS TO DIAGNOSIS.

By William Hunting, F.R.C.V.S., London.

The diagnosis of most of the diseases recognised and classified by veterinary authorities is, I venture to say, fairly achieved by our practitioners. We observe closely and interpret acutely, but we have not yet arrived at the highest possibilities open to us. As far as our ordinary senses carry us we are tolerably exact, but we do not avail ourselves of all the aids that art has put at our command. The human practitioner has the advantage of *subjective* symptoms—the impressions and feelings detailed by the patient—to assist him. We have to rely entirely upon *objective* symptoms, and therefore we should all adopt every means available to extend our sphere of observation.

To arrive at a correct diagnosis of any disease we have to recognise the significance of certain phenomena we call symptoms. We appreciate these symptoms through the medium of our five senses—we see, feel, smell, hear, and if need be, taste them. We may fail to correctly interpret these phenomena when they are definitely impressed upon our cerebrum through one or more of these gateways of knowledge. More frequently our diagnosis is inefficient from the fact that our senses have not detected symptoms which were beyond their unaided reach, or because they have not clearly defined others upon which they were unable to act with precision. Here it is that art comes to our aid with appliances which extend the limits of the natural senses, or enable them to be more directly applied. Even the most perfectly endowed natural senses may be rendered more acute by mechanical aids.

In the diagnosis of disease it is expedient that the very slightest modifications of structure or function should be detected. Some of these changes are so slight and some are so hidden by their position that no man can rely upon his unaided senses to arrive at a correct conclusion, in very many cases involving his client's property and his own reputation. It is of course possible to trust too much to mechanical appliances. The more complex articles are dangerous and misleading in the hands of men who do not understand them. The limits of their power, the exact significance of their indications, and the exaggeration or distortion of the effects produced must be carefully kept in view when estimating the results attained by their use. Neglect of these precautions has been one great cause of the small amount of use made of mechanical aids to diagnosis in veterinary practice. They are only *mechanical* aids—they assist the man who possesses training and intelligence enough to use them, but they do harm to the individual who imagines that they may be a substitute for the active employment

of all his natural senses, and the most careful, logical estimation of the observations made. The same instrument may be in one man's hand a pretentious toy that in another's is a guage of scientific accuracy.

The use of instruments of precision may sometimes appear superfluous, and we do not hesitate to grant that some men with their ordinary senses will practically attain to as great exactness in diagnosis without them as others do with them. Careful training of the senses gives a marvellous exactitude and precision. The sensitive finger of a careful old practitioner in recognising changes in the character of the pulse may be trusted to give him all the information of a sphygmographic record, but I must believe that a study of the pulse both with finger and sphygmograph would teach more rapidly and with greater precision all the information to be derived from circulatory disturbance as indicated in the arteries.

The use of instruments as aids to diagnosis teaches exactness of observation and trains the senses to a higher power of observation. They should, then, be employed by all students and young practitioners so as to beget a habit of correct observation, without which the practice of medicine becomes unreliable and altogether too empirical.

There are some good reasons why mechanical aids to diagnosis have not been very widely adopted by veterinary practitioners. In many places where our patients are seen some appliances could not be used. Some artificial aids require perfect steadiness of the patient to render them applicable, and our patients are often unsteady, and sometimes positively refractory. Possibly too it may be granted that the very highest dregree of exact diagnosis is not necessary in many of our cases. The prognosis in our cases is often a simple matter, determined by the pecuniary value of the animal, and all we have to decide is the presence or absence of a certain disease. In man of course much more definite knowledge of the case may be necessary when the whole future life of the patient may be modified by the diagnoses. Ours is, to borrow the language of the chemist, a qualitative diagnosis; theirs is quantative. We therefore in many cases have no practical need for forming any opinion as to the exact position or degree of some morbid condition—we are satisfied to merely recognise its existence.

But these are only excuses, and we must not allow them to do more than partially excuse the negligence of the busy practitioner. Mr. Alfred Broad once read a paper on "Hobbies," and suggested that as the busiest man always found time to ride his pet hobby, we should all do good to ourselves and our profession if we could select a hobby bearing on our calling. Now amongst the mechanical appliances given us by art and science there are many which are interesting enough to take the place of a hobby, and perhaps some of us may thus have obtained an experience of the less common instruments. For my part I regret to say that I have not a decent knowledge even of some of the most essential ones, and my temerity in accepting the task of writing this paper was inspired by the belief that it was quite secondary to the discussion.

*Probes.* Amongst the very simplest mechanical aids are probes, with which we explore openings and passages amongst the tissues resulting from accident or disease. We select probes or an unyielding or yielding nature according to the facility of passage afforded. Often we merely wish to determine the depth, extent or direction of a passage sometimes however we also wish to find out whether some foreign agent has not been lodged amongst the tissues. In this case the material of which the probe is made is of importance. The presence of glass or metal buried in soft tissues is only readily distinguished by hard steel probes. In the case of punctured wounds of the foot when the point of a nail may have passed through the horny coverings and remain lodged in the sensitive structures a soft probe is very useless. I have thought that the diagnosis of such cases might perhaps be assisted by the use of the magnet, but no opportunity has arisen for testing the notion.

*Sounds.* Are merely metal probes introduced into natural passages or receptacles? There are not many conditions in which they render us assistance in diagnosis. Cystic calculi in the lower animals are not often met with, but in some of these cases the use of a sound is necessary to arrive at an exact conclusion. Professor Axe, who has made these subjects a special study, points out that when symptoms arise suggestive of the presence of a calculus in the bladder a negative diagnosis can never be depended on unless the use of a sound has been resorted to.

Percussion and pressure are often resorted to in our endeavours to detect changes in the body. Mechanical aids are sometimes advisable. In the horse I do believe that percussion of the abdomen and thorax can be more exactly applied by the knuckles or fingers than by mechanical appliances. The sinuses of the head may perhaps give a more exact return to percussion applied with a small wooden or ivory hammer than by the fingers. The foot gives better percussive indications to a hammer than to any other arrangement.

The only organ to which we apply mechanical pressure as a means of diagnosis is the foot. The ordinary farrier's pincers are used. The indication afforded—flinching—is simply evidence of pain, and we have to carefully estimate its value when seen. It is no uncommon thing to obtain no evidence of pain by the use of pincers and yet to have serious mischief in the foot. A bruised heel covered by a thick layer of horn may exist and show no sign under pressure till some of the superimposed horn be removed. In other cases we have a display of tenderness elicited by very slight pressure and yet no serious foot mischief in existence.

Perhaps no more common error is seen in practice than that of cutting away the hoof to search for pus, which is supposed to be indicated by the flinching produced by pressure applied round the circumference of the hoof.

*Specula.* In the larger domestic animals not much necessity exists for the employment of specula.

The natural openings are mostly large enough to admit of manual examination, and even the passages in connection with them may be explored for some distance. In the smaller animals it is seldom a very exact diagnosis is required, but for the sake of good surgery we should never neglect to use all means at our disposal for correctly estimating the nature, position, and degree of all morbid changes.

Oral specula are in daily use under the more common term of mouth-gags or balling irons. For most purposes, especially for examinations of short duration, they are satisfactory, but the instrument invented by Mr. Rogers is the only one which fixes the mouth firmly, and can, if necessary, be removed instantly.

Nasal specula are, as far as I know, useless in the lower animal. The length of the passages and the position of the turbinated bones render it preferable to resort to incision or even trephining as a means of diagnosis.

Anal specula are sometimes of value as aids in the application of remedies, but there are few cases in which they afford any information which may not be better obtained with the finger.

Vaginal specula are sometimes useful in the bitch to assist in determining the extent of the disease, and so forming a more reliable diagnosis as to the probability of sterility existing.

Pharyngeal or laryngeal specula for use in the lower animals I have no experience of. Mr. McKenny of Dublin has I believe invented and used such instruments.

*Weights and Measures* are seldom used in our practice, but there are cases in which they might be employed. The specific gravity of milk, urine, and other fluids is most important in some cases and may be arrived at with tolerable correctness by instruments easily obtained.

The experienced eye may be relied upon to estimate alterations of size or form when only one side of the body is affected, but measurements of feet and limbs may be resorted to when exactness is specially required. Perhaps such measures are more adapted to physiological enquiry. Weighing animals is seldom possible, and very few cases arise where any assistance to diagnose would be afforded if it were practicable. In some diseases it would be interesting to have statistics of height in relation to chest-measurement—in roaring for instance and the exact forms of feet in relation to disease might also afford some useful information.

*The Thermometer.* This instrument for measuring changes of temperature in animal bodies seems now to have been universally accepted as indispensable. It is remarkable how exact the eye and hand become by training in detecting variations in the physical conditions of things. So sensitive are our organs that they may often be relied on with as much certainty as a scientific instrument. Our senses, however, cannot compete with the thermometer, which will indicate a rise of temperature accompanied by no other visible change in the animal, and appreciable to none of our senses. The value of the thermometer then is in proportion to the pathological importance of an alteration of temperature, and as this cannot be over-estimated, so the thermometer is secure of a leading place amongst aids to diagnosis. In all febrile disorders the thermometer is a valuable recorder of the rise and progress of the disease, but as in all fevers there are local complications which are the cause of permanent mischief or even death we must be careful not to neglect other symptoms. The amount of pyrexia is not always indicative of the gravity of a disease, and therefore the indications of a thermometer are only to be accepted as a portion—sometimes a small portion—of the diagnosis. The thermometer frequently gives the earliest intimation of a relapse, and always shows approaching dissolution.

In some cases the thermometer is very useful in assisting us to discriminate between a local disease and a febrile one. In catarrh affecting horses in a district where influenza has prevailed we derived assistance from the thermometer. In dogs also it enables us in the early stages of distemper to be more confident that we have the specific disease and not ordinary catarrh to deal with.

Practically the thermometer reaches its highest value in assisting us to detect specific disease in the very earliest stage—in a stage in fact when no other indication is available. In a herd of cattle amongst which pleuro-pneumonia has appeared or when good grounds exist for suspecting it, the thermometer will show a rise of temperature before any other sign is apparent. Of course the instrument does not diagnose the disease. A rise of temperature may be due to many causes, but when it accords with a definite history and is supported by circumstances pointing in one direction we may accept it as at least strong diagnostic evidence. A good deal might be said of the value of thermometric observations in relation to other symptoms when carefully made throughout a case, but this would be entering more into the pathological than the diagnostic use of the instrument.

*Stethoscope.* Why is it that this instrument is regarded as essential in human practice whilst seldom employed in veterinary? Is it overvalued in the one or undervalued in the other; or is there something in our patients or their surroundings that accounts for the different estimate? I believe the human physician does not overvalue his stethoscope, and I believe the veterinarian is right in not using it. The ordinary straight stethoscope is inapplicable to our patients. Animals will not stand still, and every moment displaces the instrument. Auscultation in a stable is always difficult from the variety of noises constantly being produced. Horses stamping, moving in the straw, eating, rattling their rack-chains or logs produce a set of sounds which distract the attention and confuse the hearing of anyone attempting to listen to the chest. One form of stethoscope gets over a number of these difficulties—the binaural. With this instrument outside sounds are not so noticeable, and if it does not really magnify the chest sounds it certainly renders them clearer and more distinctive. Its greater use may justly be expected to add to the value of auscultation. My experience is not yet sufficient to enable me to detect many of the finer differences of morbid

sounds recognised by human practitioners, and probably only prolonged use of the instrument would enable any one to appreciate all its advantages.

The stethoscope may assist us in examination of not only the heart and lungs. Possibly it might be of value in detecting changes in the larynx; it might also enable us to detect the sounds of the fœtal heart which I have not been able to do without it.

*The Opthalmoscope.* My experience of this instrument is insufficient to warrant me in saying that it is not of much value to veterinarians. I have however found that horses do not keep their heads still so as to enable the amateur to see as much of the organ with the instrument as without it. We seldom have cases in which any practical utility is served by examination of the retina, and all the anterior structures can be seen well enough with the unassisted eye. It is just possible that rarely a cataract on the posterior surface of the lens or some opacity in that position might be made clear with the assistance of an ophthalmoscope which could not be detected without it. Without considerable practice the superficial parts of the eye can be seen better without the instrument.

*The Sphygmograph.* One of our members, Mr. McGill, has invented and used an instrument of this sort on the horse. Whether he has obtained much assistance from it as in aid to diagnosis I am not aware. As a *recorder* of changes in the circulatory system it is most valuable, but there are not many cases in which it teaches the practitioner more than he may learn by his finger on the pulse. Heart disease of a prominent kind is not common in our patients, or perhaps we might derive assistance in localizing the disease by the indications afforded on a sphygmographic tracing.

*The Microscope.* Every practitioner should be able to use a microscope up to a certain power. It is a useful acquisition if a man can prepare delicate specimens and manipulate the higher powers, but very few of us are able to employ with certainty the aid of the microscope in deciding the nature of many of the minute causes of disease. Cases of skin disease are seldom positively diagnosed without a microscopical examination of hairs or scrapings from the affected part. We may guess correctly at their nature, but the microscope affords in many cases evidence of a positive nature. We may always hope to decide at least whether the case is contagious or not, and that is a very practical step in diagnosis. The examination with a microscope of milk, blood and urine may also afford assistance in determining the nature of disease. The ova of intestinal parasites may be found in fæcal matter, and the structure of tumours may be so minutely seen as to afford useful aid in forming a correct diagnosis of their pathology.

I do not think the ordinary practitioner can be expected to undertake bacteriological work. Most of us would probably fail to find any specific organism, and only very few would derive any assistance from the discovery of a bacillus which might or might not be the cause of disease. The detection of the minuter organisms which cause specific diseases in as much the work of an expert as the detection of chemical agents in cases of poisoning, and we can do better by close observation of clinical symptoms in diagnosing our cases than by fruitless attempts to demonstrate the actual cause. Practitioners should make use of the lower powers of the microscope, but only those who have had considerable experience of the instrument are capable of doing reliable work with anything more delicate than a quarter-inch objective.

*Electricity* has supplied one or two aids to diagnosis. The light generated by it may be used to illuminate passages or cavities, and so assist in detecting changes otherwise quite beyond our reach. It has also been applied in a very ingenious manner to detect the presence of bullets or splinters of metal buried in the tissues, which are evidenced by the production of sound in a telephone.

In conclusion, I must offer an apology for this paper. Until I commenced it I had no idea I was unfitted to treat the subject properly. It was then too late to hand it over to another man, and so I have endeavoured to minimise the evil of my rashness by simply putting my remarks into a form which I hope may be suggestive enough to direct a discussion and elicit from those of you who understand the various appliances alluded to some information of practical use to the members.

Mr. Sheather, in opening the discussion, said he was placed somewhat at a disadvantage, as the paper was not forthcoming until yesterday morning, but on Saturday evening Mr. Hunting kindly gave him some verbal instructions as to what was likely to be in the paper. He found that Mr. Hunting apologised as he thought he was not the man to write such a paper, but if that was so, he (the speaker) was really in a worse position. He was afraid his remarks would not redound either to the credit of the Association or himself, but still he would go through with his task. Mr. Hunting began by saying that the diagnosis of most of the diseases recognised and classified by veterinary authorities was fairly achieved by practitioners. In that he was perfectly correct, but he took it that in a paper of this kind indication should be given to further recognise and classify diseases which were not yet dealt with by veterinary authorities. That such diseases existed, that there were diseases classified in one category that might well be divided, none of them would venture to deny. Influenza assumed a number of phases, and might be split up into two or more diseases, and in that he thought more aid should be obtained from the instruments which were now at their service. And if any good work was to be done in this direction the investigation would have to be systematic and continuous. With some of them this was difficult—because the time was not their own. Compared with the medical profession, he thought the ability shown by the veterinary surgeon in diagnosing was somewhat superior—the former had in his favour subjective symptoms and greater simplicity of disease. The assertion of Mr. Hunting that whatever aids were used should be used intelligently went without saying.

It was most necessary that the instruments should be of the simplest kind, that was from the ordinary practitioners point of view. He inferred from Mr. Hunting's paper that he wished each one of them to take an instrument of some kind and push it as a hobby. That might not be possible. He thought it savoured too much of one's ordinary work. He usually found that a hobby was something widely divergent from the ordinary routine of a man's life. Mr. Broad's hobby was photography, and it struck him that he could make it very useful to veterinary science. He hoped Mr. Broad would hear of his opinion, and by means of his photography advance their knowledge in certain points. Probes should be, as the essayist said, of the simplest kind, and it would be waste of time to say what could be done with them. With regard to percussion and pressure, he though that very rarely now in their profession was any instrument used for percussion, that was to say in diseases of the chest and heart. He was content with his fingers himself. Mr. Hunting said that "the only organ to which we apply mechanical pressure is the horse's foot." He went on to say that it was possible for a bruised heel to exist and not show any sign under pressure, and afterwards added that it was a common error to cut away the hoof in search of pus. This seemed to be a contradiction to the previous sentence that unless the horn was removed there would be no sign of pain. He took it that each practitioner had his own particular way of proceeding with the examination of the foot. As to specula he had had no experience of the Rogers' gag or balling iron, that Mr. Hunting spoke of. He thought the thermometer was one of the greatest aids they now had for approximating the condition of living animals. He thought no practitioner should be without his thermometer. It had on many occasions given him information of great value. Sometimes information of a most startling character was gained. Within the last few weeks he had noticed the highest temperature he had had for three or four years, viz., 109, in a horse. He had had one with 111, but it died with a falling temperature. The disease was pulmonary apoplexy. The stethoscope was a simple instrument, but he did not think there was much reason for its application in veterinary practice. A physician would find it useful, as it would be objectionable to put his ear to the chest, particularly in the case of the opposite sex. Still the stethoscope had its value in veterinary practice; they could detect with it a small portion of lung structure that might be affected. He must coincide with Mr. Hunting in not being able to differentiate in the horse the number of sounds described by human practitioners. He (the speaker) had not been able to do it, but he called to mind two or three cases where he had perfect crepitation without the use of the stethoscope. The stethoscope might be useful but he would not admit that it was necessary. Now as to the ophthalmoscope, he had used it for some time but never got much satisfaction from it. If they used their own unaided faculties, he thought they would soon put the instrument on one side. If they used it at all, it would be to confirm the diagnosis, or elucidate some suspicious fact in connection with the eye—that was the practical end of the ophthalmoscope at present; what its future would be he was unable to say. With study much more could be learned with regard to the horse's eyes than they at present knew. There were conditions in the horse's eyes which they scarcely realised as disease. They had seen the shine in a horse's eye come and go again, and their unaided abilities could not discover how that could be, but he had no doubt from the character of the shine that it was due to nervousness on the part of the animal. He had no doubt that horses suffered from short sight and also from long sight. He had a horse in his possession now, an old hunter. If ridden at a fence he would jump a great deal too soon and a great deal too high. He knew of a similar horse in Berkshire. The horse hunted for six or seven years, but it jumped now just the same as the other he had described, and was not fit to follow the hounds. If a man studied sufficiently he could find out much in this connection. An ordinary veterinary surgeon could not do much, they wanted an army surgeon with plenty of horses to look after and plenty of time. In diagnosing the eye he had used a lighted candle with advantage. Often with a contracted pupil they could not see much of the crystalline lens. The use of the candle resulted in a dilation of the pupil, and by that means they got a better view of the lens. As to the electric light there was no doubt as to its being a valuable aid. The aids were numerous and marked a great advance in electrical science. He was afraid he had said little that was to his credit, but he had referred to one or two points on which their opinions would be valuable. (Applause.)

Mr. Robinson said that to prevent waste of time he would offer a few desultory remarks upon the subject. Some of the aids that could be supplied to them appeared almost incredible They lately had a meeting in the West of Scotland and a veterinary surgeon there explained a magnetic instrument for taking a foreign body from the heart of a cow, (laughter). Apart from that they had many valuable aids to diagnosis. So far as he was acquainted with it, the stethoscope was useful in diseases of the heart. The diagnosis was much easier with than without it. In the examination of a dog's entire chest the stethoscope was very useful, and much better results were obtained than by applying their ear to the chest—at least that was his experience.

Mr. Smith said Mr. Sheather had raised a question as to sounds heard in the chest during the progress of certain diseases, and so far as his experience went he could fully bear him out. In regard to the horse, he had taken a deal of trouble in several cases and never heard the sounds described in their text books. As to the stethoscope he thought he could manage better by putting his ear to the chest of the animal. The suggestion why the human practitioner used it was undoubtedly a right one. Mr. Hunting had not mentioned in his paper the use of the ordinary mirror in place of the electric light. In the examination of the teeth, the mouth and nostrils he constantly used it. The ophthalmoscope was

condemned and for very good reasons. He thought they had to limit its use entirely to the examination of cataract.

Mr. RUTHERFORD said it seemed to him that probably the thermometer gave them most room for discussion. He used it himself almost every day. He must draw the attention of the Society to a statement of Mr. Hunting's which to a large extent was misleading, judging from his own experience. At Birminghan when he (the speaker) spoke about the thermometer he pointed out that it was not always to be relied on as giving evidence of the presence of disease. Mr. Hunting said in his paper "our senses however cannot compete with the thermometer, which will indicate a rise of temperature accompanied by no other visible change in the animal." His (the speaker's) experience was the converse of that. A disease had been known to exist before the thermometer indicated it. Going on Mr. Hunting said "Practically the thermometer reaches its highest value in assisting us to detect specific disease in the very earliest stage—in a stage in fact when no other indication is available." He denied that as plainly as a man could do. It could not be relied on. If laid down as a rule it would fail. He had in his recollection numberless instances where it did not indicate the presence of disease. Two instances in point. A stall-fed animal indicated normal temperature two days running, on the third day the temperature suddenly rose to 105. When slaughtered only a portion of one lung was left. Lately they had an importation of 35 animals, all more or less diseased, into Edinburgh. The animals were followed up to the different places where they had gone. One got amongst a herd that he was intimately acquainted with. He examined the animal on the Friday and thought he could detect something, there was a slight rise of temperature to 103. A day passed and she was placed in a loose box. In six hours the temperature fell to normal. The next morning she was slaughtered and then it was found she had pleuro-pneumonia.

Mr. HURNDALL said it seemed to him that Mr. Rutherford had somewhat changed his opinion as at Birmingham he said the thermometer was to be relied on as indicating development of disease.

Mr. RUTHERFORD.—I have just said so, but it must not be supposed that because it does not register disease that no disease is present.

Mr. HURNDALL said so far as he could see Mr. Rutherford appeared to be confounding a case of chronic disease with one of acute. He should take it that the cow had been suffering for a considerable time from pleuro-pneumonia, and had the thermometer been used at first it would have been indicated. He had always relied on the thermometer and was thankful that he had done so. His experience of a thermometer was this, that if a horse or cow or sheep was overtaken with acute disease it would show a rise of temperature and probably a somewhat considerable one. In cases of acute disease the thermometer was strictly reliable. It was one aid to diagnosis for which he had great cause to be grateful.

Mr. EDGAR said he wished to endorse Mr. Rutherford's remark as to the thermometer. He remembered outbreaks of pleuro-pneumonia in two herds. He took the temperature of the whole of them before they were slaughtered. Twenty-five were affected with pleuro-pneumonia, and several of these animals if he had gone by physical examination alone would have passed as sound. Therefore they must be guarded in their observations on the thermometer alone, and yet he never treated a case without it and never undervalued the thermometer.

Mr. SMITH referring to crepitation said it was always to be observed in a cow. As to the Stethoscope, he could do better with his unassisted ear.

Mr. HUNTING said he had been trying to make up his mind why there was so little discussion on his paper, and he had not quite succeeded in doing so. First of all he thought it possible that every member thought that every other member knew so much about it that there was no necessity to speak, and considering again he thought perhaps that nobody knew anything about it. He need not trouble them very long about the probes, nobody seemed to care about them, and he need not. Now about the inconsistent expression of his. He always resented a charge of inconsistency. There was no inconsistency in his words because they referred to treatment for two very different purposes. There seemed to be very little difference of opinion with regard to the thermometer. He thought Mr. Rutherford's remarks amounted only to this — that in some cases the senses indicated disease without the use of the thermometer. A good job too! They did not want a thermometer when they could diagnose without it. He guarded himself by saying that the thermometer was not to be taken by itself—they wanted brains to explain what a rise in temperature meant, and of course did not say disease could not exist unless shown by a thermometer. With regard to the Stethoscope he was amused with the reason given by some members why human practitioners use it. Fancy a doctor modest! (Laughter.) From his small experience he had certainly got sounds louder and clearer with it. He was inclined to believe in it still although experts were against him. He agreed with Mr. Smith as to the use of a mirror in examining passages. That seemed to be the end of his notes, and he thanked them for not having lost their tempers over his paper. (Applause.)

The PRESIDENT moved a cordial vote of thanks to Mr. Hunting and Mr. Sheather, which was heartily carried.

## GOVERNMENT VETY. DEPARTMENT.

### CONTAGIOUS DISEASES IN ANIMALS.

*Reported in Great Britain and Ireland during the week ended September 14th, 1889.*

*Pleuro-pneumonia.*—Only 4 fresh outbreaks of this disease were reported in Great Britain during the week, 1 of them in the West Riding of Yorkshire, 2 in Ayrshire, and 1 in Forfarshire. There

were 31 cattle found affected, 2 of which were in the West Riding, all the others were in Scotland. The number of healthy cattle slaughtered because they had been exposed to the risk of infection was 179, of which 38 were in England and 141 in Scotland. In Ireland there was 1 fresh outbreak in the South Dublin Union; 4 were attacked and 27 which had been exposed to infection were slaughtered.

*Anthrax.*—In great Britain 3 fresh outbreaks of this disease were reported, 2 in Yorkshire (W.R.), and 1 in Wigtonshire: 3 animals were attacked and died, exclusive of 55 deer in Ickworth Park, 16 of which died and 37 were killed. In Ireland there was 1 outbreak of anthrax at Naas, in Co. Kildare, 4 animals were attacked, all of which died.

*Swine-Fever.*—Of this disease 94 outbreaks were reported in the week, 453 swine were attacked, 147 diseased swine were killed, 217 died, 46 recovered, and 396 remained alive at the end of the week. In Ireland there were 6 outbreaks of swine-fever and 24 pigs attacked.

*Glanders and Farcy.*—In London 6 fresh outbreaks of glanders were reported and 10 horses attacked: 1 horse was affected with this disease in Lanarkshire, but other parts of Great Britain were free.

Of farcy 9 outbreaks were reported, 2 in Essex and 7 in London, 18 horses were attacked, 2 in Essex and 16 in London. No case of either glanders or farcy occurred in Ireland during the week.

*Rabies.*—In England 9 cases of rabies were reported, 8 in dogs, in the counties of Surrey, Sussex (East), Sussex (West), and York (W.R.), and 1 horse in the West Riding was affected. In Ireland 8 cases were reported, 5 in dogs, 2 in cattle, and 1 in a donkey.

## REVIEW.

*Physiology of the Domestic Animals, by R. Meade Smith: F. A. Davis, London,* 1889.

Starting with the definition that "physiology treats of the functions or actions of living beings," the author briefly outlines its various divisions and concisely enumerates the characteristics of a living (or organised) as opposed to an unorganised body, though in this, as in the distinction between plants and animals, there seems some degree of straining after sharply defined limits which can scarcely be said to exist.

As the unit of the physicist is an atom, the unit of the biologist is a cell, and to the definition of the cell and the consideration of its properties, origin and modifications, and to the three modes in which (viz., formation of layers, union of cells, and excretions by cells) attention is first paid. The origin of cells is introduced by an examination of their modes of multiplication and the old idea that increase took place primarily by simple division (fission) of the nucleus is shown to be incorrect, it having been found on closer examination that division is preceded by a determinate and complicated series of changes in the arrangement of the nuclear fibrils (karyokenesis). The possibility of organic forms of life (cells) originating "by the aggregation of particles in a previously existing homogeneous fluid" (which presumably would contain in solution all the inorganic substances necessary for their production) is discussed and the conclusion stated in the physiological dictum "*omnis cellula e cellula.*" Whether this view will receive the support of those persons who have endeavoured to carry the doctrine of evolution to its logical conclusion and sought to explain the mode of origin of life (apart from miraculous interference) remains an open question, but certainly we have no positive evidence to controvert it.

Section II.—Cellular Physics is most attractive, not only because of its novelty but also on account of the writer's thorough knowledge of the subject, and happy selection of examples. It comprises the physical properties (1st) of cells and (2nd) of tissues and (3rd) the mechanical movements in cells. The portion dealing with osmosis should be carefully read.

Section III. opens with "the chemical constituents of cells." These are placed firstly under two heads—organic and inorganic. The organic are again divided into Nitrogenous and Non-nitrogenous, the latter comprising carbo-hydrates and hydrocarbons. A very thorough description of the modes of preparation, tests for, and properties of the chief substances included in the above classification is succeeded by "the chemical processes in cells," which concludes Part I. of the volume.

Part II.—Special Physiology. Book I. The nutritive functions. Food stuffs are first noticed, copious records of analyses and the lessons to be deduced from them are given. It has been found by Ellenberger and Hoffmeister that oats contain at least three ferments—an amylolitic, a proteolytic and a lactic acid ferment, and by the action of water alone, at the body temperature, 2 per cent. of sugar, 0·5 per cent. soluble proteids, and 0·1 per cent of lactic acid were produced in three hours, while in six hours one per cent of soluble proteids was formed and in seven 0·2 per cent of lactic acid. The practical application is, that as these ferments are destroyed by boiling water, "in disturbances of digestion as occurring in domestic animals the administration of vegetable food in a raw state is preferable to its use after boiling," and the above property of oats also explains their high degree of digestibility.

The proportion which should exist between proteids and fat formers in an ideal diet is descanted upon, and the general law laid down that the herbivora should receive not "more than eight or less than four parts of non-nitrogenous matter to one of proteid, and not less than two parts of proteid to one of fat."

Section II. on digestion is fairly illustrative of the author's thoroughness throughout. The alimentary canal first receives consideration, and beginning with the simplest illustration—a mere depression in

the surface, as in the amœba—the gradual growth in complexity is traced through the hydrozoa, flustra (or sea mat) earth-worm, oyster, snail, fish and bird until in the digestive tract of the mammal it finds its highest and most perfect expression. I may here remark that an exactly parallel course of treatment has been adopted in the various parts of the work dealing with the circulation, respiration, the nervous system, etc. The method in which organs and functions adapt themselves to circumstances receives a curious illustration in the case of the alimentary canal of the domestic hog, which is greater than that of his wild brother—a result purely of his closer confinement to a vegetable diet. The capacity of the cæcum is in direct proportion to the volume of food consumed, and in inverse proportion to the size of the stomach and to the complexity of the apparatus of gastric digestion, while this latter is in inverse proportion to the capacity of the intestine—as a whole. These and many other points of interest are set forth in tables which show the relation between the lengths of different portions of the intestine and that of the body, between the capacities of the stomach and intestine, and between the extent of the gastro-intestinal mucous membrane and that of the skin, in most of the domesticated animals.

An interesting chapter on the modes of prehension of food in different animals is followed by one on mastication in which is discussed the various types of teeth and their uses, and the herbivora are divided into three classes characterised by different styles of mastication—these are (1) Rodents, with a back and forward motion of the jaw, (2) Ruminants with a rotary motion, and (3) solipeds and pachydermata with a combination of both movements. In ruminants and solipeds lateral movement of the jaw takes place in one direction only for considerable lengths of time, thus, if when chewing the jaw first moves from a central position towards the right it will continue this right lateral deviation for a considerable period, say half an hour, after which the reverse movement takes place. The camel is, however, an exception to this rule. The illustrations in general are excellent (though in some cases of the diagrammatic order) but those of the teeth of the horse and the domesticated animals at various ages are an exception. The former have been engraved from the mouths, of horses and mares indifferently, and apparently in many cases from dried specimens, altogether these plates are by no means in keeping with the otherwise strictly accurate character of the work.

"Digestion in the mouth" follows mastication and deals very fully with the salivary glands and their secretion. It corrects the old ideas concerning the action of ptyalin and for the theory that starch was first converted into dextrin and then into dextrose it substitutes a more complicated process.

The nervous supply of the salivary glands is considered in detail, the conditions on which secretion depends are discussed, and the histological changes in the glands before, during, and after secretion noted. "Deglutition" leads to "Rumination." Here are described the cell collections in the camel's rumen, which are capable of accommodating nearly two and a half gallons of water, and the mode and nervous mechanism of rumination carefully explained.

The author's conclusions on the much vexed question of why the horse vomits with such difficulty are interesting. He considers it due (1) to the distance between the stomach and abdominal walls; (2) to the length of the œsophagus between the diaphragm and stomach; (3) to the nearness of the œsophageal opening to the pylorus; (4) to the strong cardiac sphincter; (5) to the oblique direction of the œsophagus through the diaphragm, to its obstruction by mucous membrane and to the large size and generally patulous condition of the pylorus.

The physiologically happy accident which occurred to Alexis St. Martin not only enabled Dr. Beaumont to lay the foundation of our knowledge of gastric digestion, but also suggested to Blondlot, and afterwards to Bernard, methods of establishing gastric fistulæ in the lower animals, which have greatly amplified and extended that knowledge. As is well known gastric juice contains three chief constituents, (a) Pepsin, (b) Hydrochloric acid, and (c) Milk curdling ferment.

This last is so active that one part by weight is capable of coagulating from 400.000 to 800,000 parts of casein. It has been definitely settled that the free acid of gastric juice is Hl'l, and various proofs of this are given. With one, however, I am unable to agree: "The addition of gastric juice to starch mucilage containing iodide of potassium will develope the blue iodide of starch by liberating the iodine from the potassium," page 349.

If Hl'l be added to a solution of iodide of potassium, *hydriodic acid* and not free iodine is liberated, and this acid is incapable of producing any coloration with starch. The production of a blue color under the circumstances of the experiment described, cannot therefore be regarded as indicative of the presence of hydrochloric acid.

In the herbivora the conversion of starch into sugar (a process began in the mouth) continues for from two to four hours after the food has been swallowed. During this time the fundus may be digesting proteids while the starch conversion (which is accompanied by formation of lactic acid) goes on in the left portion of the stomach, but as the proportion of hydrochloric acid increases starch conversion ceases, and the action on proteids begins. Goldsmidt has found that in the horse the digestion of starch is aided by amylolytic ferments derived from the air, which are mixed with the saliva in the mouth, and which rapidly develop in the oral mucus.

In feeding, the administration of oats, which require prolonged gastric digestion, should always be preceded by that of hay, which is more rapidly disposed of, and this again by water. If this order be departed from, the hay or water forces the oats into the intestine in a partially digested condition, and not only is there a loss of nutritive material, but serious intestinal disorders are apt to follow a continuance of the practice.

J. A. D.

*To be continued.*

# EXTRACTS.

## A CASE OF CRUELTY.

Stephen Gibbs, veterinary surgeon, of Herne Bay, and Thomas Wright, veterinary surgeon, of Canterbury, were summoned for cruelly illtreating a grey gelding at Herne Bay.

Mr. R. F. Colam appeared to prosecute. Mr. R. M. Mercer appeared for Wright, and Mr. J. Plummer for Gibbs.

Mr. Colam said that on the 5th August, a horse belonging to Mr. W. Collard, received a severe injury by tumbling into a hole in the road. Mr. Collard was anxious to have the horse killed, but Gibbs said he would bring it round. The horse was put in slings, and was so kept for three weeks without being attended to. There was a large wound where it rested upon the sling, large enough to put his head in, and there were several other wounds. The animal had rubbed its wounds against the wood and iron rings, which were covered in blood and matter. The defendant Wright was sent down to see the horse. Gibbs said he was in charge of it, and was acting under the instructions of Wright. Wright said he was not responsible for the horse. The one blamed the other, and consequently both were summoned. He did not say that they intentionally neglected to attend the animal. They were guilty of an act of omission which caused the animal unnecessary torture. If a horse was to be slung it should be slung properly, and dressed in a proper manner.

P.C. Kirby deposed that on the 20th August he went to Mr. Collard's stable at Herne Bay. He saw the horse slung up by pieces of sacking. On the near side of the chest there was a wound about eight inches across. There was another on the chest about nine or ten inches long. The slings seemed to be embedded in the flesh. Matter was continually running and dripping on to the straw from the wounds.

William Collard deposed that he owned the animal. On Sunday night, the 4th, it fell down and broke it knees. He called in Mr. Gibbs. Witness said "Don't you think it ought to be killed," and he said he thought he would bring it round. The animal was slung and attended to by Gibbs who came sometimes twice a day. It remained in the slings until the 25th when witness complained. After the constable had been Gibbs came and took the slings down. He said "He's all right now he's on his legs, and I think we should work him round." Mr. Crowhurst came from Canterbury the same day, and under his instructions the animal was killed.

By Mr. Mercer: The accident took place on the 4th August. He called in Mr. Gibbs himself. He did not call in Mr. Wright. Witness applied to Mr. Furley for an action against the Local Board in respect of the injury to the horse. Mr. Furley sent Wright down to ascertain the extent of the damage. Wright did not to his knowledge give any instruction as to the treatment of the animal. When Wright came to him he said, "Well, if it was my case I would have the horse killed at once."

Inspector Alexander deposed that he saw the animal on the 26th. it was then out of the slings. The large wound was one inch deep and eight inches across each way. It was a circular wound. Witness saw the slings and the iron rings containing blood and matter which were wet. Part of the sling was missing. Gibbs said he saw there was matter on it and it was on the dung heap. Witness telegraphed for Mr. Crowhurst and called in Mr. Sherrard He also telegraphed for Professor Pritchard.

Mr. J. Crowhurst, M.R.C.V.S., deposed that he saw the horse He sent a certificate describing the wound and stating that it was the worst case of cruelty that had ever come before his notice. The wound was $1\frac{3}{4}$in. deep. Matter was constantly dripping. There was some other wounds. The large wound had been in existence about ten days. It was caused by the pressure of the slings. A horse suffering from broken knees of that kind should have been destroyed. The slings were most improperly put up. There was a most offensive smell of decayed animal matter.

Professor Pritchard and Mr. Sherrard, M.R.C.V.S., gave evidence of a similar character to above.

The summons against Wright was dismissed.

Mr. Plummer said his client was under the impression that he was conducting the case in a proper manner. Although he had not done it rightly it was not a case of deliberate cruelty. He submitted that his client had acted to the best of his judgment and was under the impression that he would pull the horse round.

The Chairman said the Bench considered it a very bad case. The penalty to be inflicted was the largest the law allowed. He would be fined £5 and £5 9s. 6d. costs; in default one month's hard labour. —*The Canterbury Press.*

# NOTES AND NEWS.

### Sudden Death of a Veterinary Surgeon.

On Thursday afternoon, 19th inst., Dr. Gilbertson, coroner, held an inquest in the Town Hall, touching the death of Mr. George Ellison, jun., veterinary surgeon, of Chorley, who was found dead in bed on Wednesday afternoon. When the sad and awfully sudden event became known, general sympathy was felt throughout the town for the deceased's family.

Robert Gordon Anderson, 7 Cleveland Street, stated that deceased was his brother-in-law, and resided with his father at 12 St. Thomas's Road. Deceased was 28 years of age, and his general health was good. Deceased about three years ago had a severe accident, by which he lost a considerable quantity of blood, and also since had suffered often from nose bleeding. Deceased told witness about nine days ago that he had been up frequently during the night attending to his professional duties, but he did not say that it had affected his health. He first heard there was something the matter about half-past five o'clock, when he met the servant, who

told him that they had found George dying. Witness went upstairs and saw deceased, whom he tried to resuscitate, not thinking he was dead. Deceased's appearance was calm and composed, and there was not the slightest appearance of his having struggled. He had all his clothes on except his coat, and seemed to have been resting on the edge of the bed, and to have swooned over, and the bed did not appear to have been disturbed as if slept in. Dr. Junks, *locum tenens* to Dr. Harris, told witness that death seemed to have resulted from syncope.—Ellen Woods deposed that she was a servant employed by deceased's father, and had been in the service nine years. On Wednesday deceased was out on his usual professional visits, returning home about two o'clock. He had a dinner of meat and potatoes, and then went upstairs to lie down on his bed. Witness heard nothing further until at half-past five she went to call him to tea. She found him laid as described by the previous witness, whom she went to fetch. There were no signs of his having vomited. In reply to a juror, the Coroner said he did not think a *post-mortem* examination was necessary. It was evident that deceased had died from natural causes from some affection of the heart.—The jury returned a verdict that deceased's death was due to natural causes.—*Chorley Standard.*

### Soluble Bottles.

At the British Pharmaceutical Conference Mr. Richard Reynolds endeavoured to answer the question, "Are glass bottles soluble?" He proved that they are: even water seems to affect them, while alkalies and acids have a more pronounced effect. Dr. Thresh made a valuable addition to the communication, his remarks on rain water showing that that mild liquid is acid in reaction, and becomes neutral or alkaline in glass bottles, owing to its decomposing action on the alkaline silicates of the glass. It should also be noted that English-made bottles were generally agreed to be worse than foreign ones, because they contain lead. It must not be supposed, however, that the subject is entirely new to pharmacy. Even the Pharmacopœia, reviled as it is, directs lime water to be kept in bottles free from lead; and chemical literature contains several references to points which were discussed on Tuesday.

### Alleged Secret Hydrophobia Cure.

A certain cure for hydrophobia is alleged to have been discovered in Lancashire. The chief constable of Clitheroe has found the remedy in the possession of a poor family at Colne, and he last week sent the following communication to the Clerk of the Privy Council, Agricultural Department:—"I desire to draw your attention to a remarkable cure for hydrophobia which has come under my notice here. On the 28th July last year several young children were bitten in this borough by a dog which was unmistakeably suffering from rabies. I sent them to undergo the treatment of this cure, and they have all been perfectly cured. It is no new discovery, but has been practised with unvarying success for over 130 years. Since 1852 there have been 498 persons treated, and not a single failure is recorded. This, I think, is ample proof of the genuineness of the cure. The medicine is not only applicable for human beings, but also for animals. A quantity of the medicine is now in my possession." Since then several letters have been received from the Council asking for further particulars, and there is every likelihood that experiments will be made at once by the professional officers connected with the department.—*Chemist & Drnggist.*

### A Pleasant Animal on which to travel over Mountain Trail.

The Mexican mule is a sort of a cross between a mountain goat and a flying squirrel, with the distinct difference that its surplus electricity flows off from the negative pole instead of the positive, as with the goat. It is in its meanderings on the mountain trails that it shines resplendent, but with a lustre wholly its own. On the mountain trail this distinct species of mule was never known to fail, although he has an exasperating and blood-curdling way of stumbling along over it that would raise the hair on a bald-headed man. Many a time I have watched the mule I was compelled to ride, with a view of discovering his methods of trying to scare me to death as payment for past injuries. Oftentimes the trail would lead past dizzy heights or cliffs, where one could look sheer down far enough to be dead before he reached the bottom should he fall, and every few feet along, the trail of a foot to a foot and a half in width would have tumbled in a foot or so and again taken up the original inclination of the mountain, or about that of the leaning tower of Pisa. Here the mule would always be sure to stick one foot and stumble a little bit, but always regain its equilibrium at the next step, having clearly done it intentionally, and out of pnre cussedness. One can imagine the cool Alpine zephyr that is wafted up the dorsal-vertebræ at such moments. —*Lieu. Schwatka in Boston Transcript.*

## CORRESPONDENCE.

*Communications for the Editor to be addressed 20 Fulham Road, S.W.*

*Original articles and reports should be written on one side only of the paper, and authenticated by the names and addresses of the writers, not necessarily for publication.*

### DR. FLEMING AND THE TRAMWAY COMPANY.

OLD MELDRUM, N.B.

SIR,

My name has been introduced by Mr. Banham in your columns in connection with a subject which certainly requires notice, viz., Army Veterinary Surgeons competing with their professional brethren in civil practice.

Your correspondent "F.M.H.J." has put the issue on wide grounds, but Mr. Banham endeavours to drag it down to the petty level of a personal quarrel. Away from home, and ill as I am, I must for the time pass by the inaccuracies as to fact in Mr. Banham's letter. I am sure he writes in

good faith. We were fellow students together, and I am sure he would have modified his remarks and spoken to the veterinary world differently had he first communicated with me. I conclude he has rushed into print because his commanding officer gave the order.

I must ask Mr. Banham to reconsider his assertion that my services were dispensed with because the Directors wanted a radical change. His information must have come from a tainted source.

On my return to London I will write more.

Yours truly, ALEX. B. DANIEL.

---

SIR,

Years ago I had the honour of being in the Service and have ever since maintained an interest in all its doings I also take an interest in *The Veterinary Record*, and would fain not believe that its Editor "blows up the flame of professional discord for no other reason than that he may handily boil his own pot." Further, I am interested in the National Veterinary Association and its zealous and popular Hon. Sec., who I should be sorry to think acted either as jackall to one editor, or viper to the other. Finally, I have long had a great admiration for the gentleman who has been our President more than once, who is our most prolific writer, and who has made for himself a great public position.

He has told us, in his own editorial words, "we had no interests to serve but those of the profession, to the welfare and progress of which we have devoted our life, our energies, and our means," and I do not wish to doubt this assertion.

Thus inspired by a wide spread feeling of admiration for all the *dramatis personæ* of the little professional drama now unfolding in your columns, I beg to offer a quotation from the "Biglow Papers":—

I du believe with all my soul
In the gret Press's freedom,
To pint the people to the goal
And in the traces lead 'em,
Palsied the arm that forges yokes
At my fat contracts squintin',
An' withered be the nose that pokes
Inter the National printin'!

I du believe in being this
Or thet, as it may happen,
One way or t'other handiest is
To ketch the people nappin',
It ain't by princerples nor men
My preudent course is steadied—
I scent which pays the best, an' then
Go into it bald-headed.

In short I firmly du believe
In Humbug generally,
For its a thing thet I perceive
To hev a solid vally;
This heth my faithful shepherd ben,
In pasturs sweet heth led me,
An' this'll keep the people green
To feed ez they hev fed me.

I should like to feel quite sure that it has no application.

Yours respectfully, "SENEX."

[Let the galled jade wince, our shoulders are unwrung —ED.]

---

## BLOODLESS OPERATIONS.

SIR,

I should be glad if any of your readers would kindly explain the best method of making a limb bloodless. I have obtained Prof. Smith's rubber bandage and tourniquet, but do not see that they have any advantage over a simpler (but still not quite satisfactory) plan which I have adopted for many years, and which I need not describe.

I may not have properly applied Professor Smith's arrangement. Anyhow, I have no doubt many of your readers are able to explain the *modus operandi*, and perhaps someone of them will kindly do so, and thus enlighten,

Yours truly, A COUNTRY PRACTITIONER.

## Veterinary Medical Societies—Addresses.

BORDER COUNTIES V.M.S.
*Pres:* Mr. J. Donald, F.R.C.V.S., Wigton, Cumberland.
*Hon. Sec:* Mr. J. Armstrong, M.R.C.V.S., Penrith, Cumberland

CALCUTTA V.A.
*Pres:* Mr. Greenhill, M.R.C.V.S.
*Hon. Sec:* Mr. T. Assheton Smith,
156 Dhurrumtollah, Calcutta.

CENTRAL V.M.S.
*Pres:* Mr. Alfred Broad, F.R.C.V.S.,
8 Finchley-road, St. John's Wood.
*Hon. Sec:* Mr. Sidney Villar, F.R.C.V.S., Harrow-on-the-Hill.

EASTERN COUNTIES V.M.S.
*Pres:* Mr. J. E. Kitchin, M.R.C.V.S., Norwich.
*Hon. Sec:* Mr. R. S. Barcham, M.R.C.V.S.,
Paston, nr. Walsham, Norfolk.

VET. MED. ASSN. OF IRELAND.
*Pres:* Mr. C. Steel, F.R.C.V.S., 12 North-circular-road, Dublin
*Hon. Sec:* Mr. J. McKenny, M.R.C.V.S.,
116 Stephens-green-west, Dublin.

LANCASHIRE V.M.A.
*Pres:* Mr. E. Faulkner, M.R.C.V.S., Knott Mill, Manchester.
*Hon. Sec:* Mr. A. Leather, F.R.C.V.S. 2 Tariff-street, Liverpool

LINCOLNSHIRE V.M.S.
*Pres:* Mr. B. Freer, M.R.C.V.S., Uppingham.
*Hon. Sec:* Mr. F. L. Gooch, F.R.C.V.S.,
Stamford, Lincolnshire.

MIDLAND COUNTIES V.A.
*Pres:* Mr. Beddard, M.R.C.V.S., Wolverhampton.
*Hon. Sec:* Mr. John Malcolm, F.R.C.V.S.,
Holiday-street Wharf, Birmingham.

NATIONAL VET. ASSOCIATION.
*Pres:* Professor Pritchard, 5 Regents Park-road, London.
*Sec:* Mr. G. A. Banham, F.R.C.V.S., Downing-st., Cambridge.
*Treas. and Chairman of Prov. Com:* Mr. F. Wragg, F.R.C.V.S.,
17 Church-lane, Whitechapel.
*Local Sec:* Mr. Sidney Villar, M.R.C.V.S., Harrow-on-the-Hill

NORTH OF ENGLAND V.M.A.
*Pres:* Mr. J. Gofton, M.R.C.V.S.,
65 Church-way, North Shields.
*Hon. Sec:* Mr. G. R. Dudgeon, M.R.C.V.S.,
Matlock-street, Sunderland.

ROYAL COUNTIES V.M.A.
*Pres:* Mr. G. A. Drewe, M.R.C.V.S., Abingdon, Berks.
*Hon. Sec:* Mr. H. Kidd, F.R.C.V.S., Hungerford, Berks.

ROYAL SCOTTISH V.S.
*Pres:* Mr. Reid, M.R.C.V.S., Auchtermuchty.
*Hon. Sec:* Mr. W. D. Fairbairn, M.R.C.V.S., Cupar, Fifeshire

SCOTTISH METROPOLITAN V.M.S.
*Pres:* Mr. C. Cunningham, M.R.C.V.S.,
Slateford, nr. Edinburgh.
*Hon. Sec:* Mr. Rutherford, M.R.C.V.S.,
12 Bread Street, Edinburgh.

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.
*Pres:* Mr. J. Nettleton, Northallerton.
*Hon. Sec:* Mr. W. Awde, Stockton-on-Tees.

SOUTHERN COUNTIES V.M.S.
*Pres:* Professor W. Pritchard,
5 Regents-park-road, London, N.W.
*Hon. Sec:* Mr. E. A. Hollingham,
79 Anerley Road, London, S.E.

WESTERN COUNTIES V.M.A.
*Pres:* Mr. J. P. Heath, M.R.C.V.S., Southernhay, Exeter.
*Hon. Sec:* Mr. W. Penhale, F.R.C.V.S., Barnstaple, Devon.

WEST OF SCOTLAND V.M.A.
*Pres:* Mr. A. Robinson, F.R.C.V.S.,
37 West Burn-street, Greenock, N.B.
*Hon. Sec:* Mr. James Weir.

YORKSHIRE V.M.A.
*Pres:* Mr. W. Lodge, M.R.C.V.S., Dewsbury.
*Hon. Sec:* Mr. W. F. Greenhalgh, M.R.C.V.S., Hunslet, Leeds.